Total Maximum Daily Load (TMDL) Program

Note: This information is provided for reference purposes only. Although the information provided here was accurate and current when first created, it is now outdated.

Kick-Off Meeting
November 19-21, 1996
Washington, D.C.

REVISED PROPOSED AGENDA FEDERAL ADVISORY COMMITTEE ON TMDLs

Tuesday, November 19, 1996

KICK-OFF

8:30 AM	Welcome	Robert H. Wayland, III
8:45 AM	Introductions and Agenda Review	Facilitator/All
9:45 AM	Keynote Remarks	Fred Hansen (Invited)/Robert Perciasepe
10:30 AM	Break	

OVERVIEW OF THE TMDL PROGRAM

10:45 AM	TMDL History and Context	Geoffrey H. Grubbs
11:30 AM	Facilitated question and answer period	All
12:00 PM	Lunch	

COMMITTEE GOALS AND PROTOCOLS

1:00 PM	Review Committee Charge; Agree on Goals	Facilitated Discussion
2:15 PM	Adoption of Ground Rules	Facilitated Discussion
3:15 PM	Break	

LISTING OF IMPAIRED WATERS (3:30 PM - 5:30 PM; 8:30 AM - 9:30 AM Wednesday)

3:30 PM	Presentation	Donald J. Brady
4:15 PM	Committee identifies key issues	Facilitated Discussion
5:30 PM	Adjourn	
6:00 PM	Social Event for Committee Members	

Wednesday, November 20, 1996

8:30 AM	Brief Discussion of Wet Weather Advisory Committee as it relates to the TMDL Advisory Committee.	Michael B. Cook
8:45 AM - 9:30 AM (if necessary)	Continue with listing of impaired waters discussion	
8:45 AM	Complete Committee's identification of key issues	Facilitated Discussion

CRITERIA FOR EPA APPROVAL OF STATE/TRIBAL TMDLs (9:30 AM - 2:30 PM)

9:30 AM	Presentation	Bruce Zander
10:30 AM	Break	
10:45 AM	Committee identifies key issues	Facilitated Discussion
12:00 PM	Working Lunch	
1:00 PM	Complete Committee's identification of key issues	Facilitated Discussion
2:30 PM	Break	

MANAGEMENT OF THE TMDL PROGRAM (2:45 PM - 5:30 PM)

2:45 PM	Presentation	Donald J. Brady
3:30 PM	Committee identifies key issues	Facilitated Discussion
5:30 PM	Adjourn	
7:00 PM	Dinner for Committee Members at local restaurant	

Thursday, November 21, 1996

SCIENCE AND TOOLS (8:30 AM -10:45 AM)

8:30 AM	Presentation	Elizabeth Southerland
9:15 AM	Committee identifies key issues	Facilitated Discussion
10:45 AM	Break	

NEXT STEPS FOR THE TMDL ADVISORY COMMITTEE (11:00 AM - 2:30 PM)

11:00 AM	Plan for upcoming meetings	All
12:00 PM	Working Lunch (Continue discussion)	
1:30 PM	Opportunity for Public Comment	
2:30 PM	Adjourn	

EPA Presenters at TMDL Advisory Committee Meeting (November 19-21)

Fred J. Hansen, *Deputy Administrator*
Robert Perciasepe, *Assistant Administrator for Water*
Robert H. Wayland III, *Director, Office of Wetlands, Oceans, and Watersheds*
Michael B. Cook, *Director, Office of Wastewater Management*
Geoffrey H. Grubbs, *Director, Assessment and Watershed Protection Division, OWOW*
Elizabeth Southerland, *Acting Director, Standards and Applied Science Division, OST*
Donald J. Brady, *Chief, Watershed Branch, AWPD, OWOW*
Bruce Zander, *EPA National Expert on TMDLs, Region 8*
Corinne S. Wellish, *Designated Federal Officer, AWPD, OWOW*

Total Maximum Daily Load (TMDL) Program

FEDERAL ADVISORY COMMITTEE ON TOTAL MAXIMUM DAILY LOADS (TMDLs)

Summary of Meeting One

November 19-21, 1996

Dulles Airport Hilton
Herndon, VA

Note: The minutes were reviewed and approved by the full FACA Committee at the February 19-21, 1997 meeting in Galveston, Texas.

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Thursday, November 21, 1996

Meeting Summary:

This meeting summary describes the discussions and actions of the first meeting of the Federal Advisory Committee on Total Maximum Daily Loads (TMDLs). The meeting was held from November 19-21 at the Dulles Airport Hilton in Herndon, Virginia. The de sired outcomes of the meeting were fulfilled in that Committee members became acquainted with one another, were able to agree on general goals and ground rules, and received a great deal of background information concerning the subject area. The Committe e was also able to identify and organize specific issues that it will address over the next 18 months and was able to establish a general agenda and schedule for upcoming meetings.

Participants:

Committee Members in Attendance:

Bob Adler	**Jane Nishida**
Fredric Andes	**Robert Olszewski**
John Barrett	**Richard Parrish**
Nina Bell	**Danita Rodibaugh**
Cheryl Creson	**Melissa Samet**
Phil Cummings	**Linda Shead**
Dale Givens	**Susan Sylvester**
James Hill	**Lydia Taylor**
L.D. McMullen	**Ed Wagner**
William Nielsen	

Ex-Officio Committee Members in Attendance:
Art Bryant, U.S. Forest Service
John Burt, Natural Resources Conservation Service
Geoff Grubbs, U.S. Environmental Protection Agency

EPA Representatives:
Robert Perciasepe, Assistant Administrator for Water

Robert H. Wayland, III, Director, Office of Wetlands, Oceans, and Watersheds
Michael B. Cook, Director, Office of Wastewater Management
Elizabeth Southerland, Acting Director, Standards and Applied Science Division, OST
Donald J. Brady, Chief, Watershed Branch, AWPD, OWOW
Bruce Zander, EPA National Expert on TMDLs, Region 8
Corinne S. Wellish, Designated Federal Officer, AWPD, OWOW

Public Attendance:
Approximately 40 members of the public attended the meeting.

Facilitator:
Martha Prothro, Ross & Associates

Conference Support:
Ross & Associates and Tetra Tech, Inc.

Total Maximum Daily Load (TMDL) Program

FEDERAL ADVISORY COMMITTEE ON TOTAL MAXIMUM DAILY LOADS (TMDLs)

Draft Summary of Meeting One

November 19-21, 1996
Dulles Airport Hilton
Herndon, VA

Tuesday, November 19, 1996

Note: This summary of the November FACA meeting is still in draft form. It will be reviewed by the full FACA Committee and, if necessary, revised at the February 19-21, 1997 meeting in Galveston, Texas.

Welcome:

Geoff Grubbs welcomed the Committee and introduced Robert H. Wayland, III, Director, Office of Wetlands, Oceans, and Watersheds. Mr. Wayland also welcomed the Committee and extended his appreciation for each members' participation. He told the Committee it had a challenging task ahead of itself and encouraged each member to avoid the "storming" stage of group development so they could begin focusing on the issues at hand. Mr. Wayland then introduced Martha Prothro, the facilitator of the meeting.

Introductions:

Ms. Prothro led introductions of Committee members, ex-officio Committee members, and EPA representatives seated around the table. She also identified the process roles for the meeting. Her role will be primary facilitator and noted that the Committee serves an important role as the secondary facilitator. She encouraged the Committee to help keep the discussion on track, seek relevant information, ask questions and contribute, test listening skills by summarizing, encourage constructive debate, discourage destructive behavior, and to help check the process periodically to make sure it is working.

Ms. Prothro then reviewed the agenda and requested comments. There were no comments and she moved the meeting forward, introducing Mr. Robert Perciasepe, Assistant Administrator for Water.

Keynote Remarks:

Mr. Perciasepe thanked the Committee on behalf of Carol Browner, EPA Administrator, and Fred Hansen, Deputy Administrator. He expressed his appreciation for the challenge the FACA Committee faces, but also reminded members that they have a remarkable opportunity to craft environmental policy. He then proceeded with a presentation focused on answering the question, "Where do TMDLs fit into the National Water Program?"

Mr. Perciasepe's began by discussing the Office of Water's move towards the Watershed Approach and the important role of TMDLs in this shift. He likened TMDLs to a map that charts the course of arriving at desired water quality. He also noted that because watersheds are "identifiable" to the public, the Watershed Approach provides increased opportunity for public involvement. He next went on to list and explain the many advantages of EPA's Healthy Watershed Strategy. This strategy:

- Offers a holistic assessment of aquatic system health.
- Integrates Water Protection Responses
- Targets resources to watersheds most at risk
- Provides an environmental basis for setting priorities
- Provides information for Performance Partnership Agreements and Management Agreements
- Helps develop highest priority national tools
- Encourages support of other EPA programs
- Focuses the support of federal agencies
- Reports to the public and Congress on restoration of watersheds at risk
- Motivates and empowers citizens.

He concluded his presentation by charging the Committee with moving forward from addressing charting and planning issues to address the key question of how to implement efforts to address polluted waters. More specifically, he identified the following issues for the Committee to consider:

- What are the appropriate roles and responsibilities between EPA, States, Tribes, etc.?
- What should be the relationship among the various waterbody lists [e.g., 305(b), 303(d), 304(l)]
- What is the appropriate pace of TMDL development?
- What tools are needed? How do we measure success?
- Most importantly, how do we relate the TMDL process to implementation and how does this integrate into existing programs?

Mr. Perciasepe then opened the floor to questions.

Q:

What is the relationship of this group to the ongoing litigation? How can members remain unbiased?

A:

We will keep the Committee informed of the status of the litigation. Lawsuit settlements, however, should not pre-empt this Committee's recommendations.

Q:

Will this group have access to information on ongoing watershed projects/case studies to evaluate their success/problems?

A:

Yes, we can provide that if the Committee desires. That will give the Committee a good sense of the difficulties associated with actually incorporating TMDLs in watershed management projects.

Q:

What is the status of the stormwater program?

A:

The stormwater program falls under a different section of the law than the nonpoint source program. The first phase is about 60 percent complete, with larger municipalities receiving permits. There is a negotiated six year lag entering the next phase, which will entail implementing the program in smaller areas and at the watershed level.

TMDL History and Context:

Geoff Grubbs, ex-officio Committee member and Director of EPA's Assessment and Watershed Protection Division, provided some information on the history and context of the TMDL Program. In opening his presentation, he identified three constraints to help guide the Committee as it proceeds with its deliberations:

1. The Committee should focus on section 303(d) as currently written and not discuss changes to the Clean Water Act.
2. Similarly, appropriation issues are outside the scope of this Committee.
3. The Committee will need to respect the confidentiality of settlements and other issues pertaining to litigation.

Mr. Grubbs also cautioned the group to avoid lengthy discussions related to water quality standards, since work is already underway to address this issue.

In his presentation, Mr. Grubbs reaffirmed the benefits of the Watershed Approach as previously identified by Mr. Perciasepe. He also stressed that TMDLs are the technical core of watershed approaches. TMDLs perform a variety of essential functions, including:

- identify water quality problems;
- provide written, quantitative assessments of water quality problems and pollution sources;
- specify needed pollutant reductions with a margin of safety;
- establish a goal of attaining water quality standards; and
- set the stage for taking action to restore waterbodies.

Mr. Grubbs then summarized the legislative and regulatory requirements that frame the TMDL program. He reviewed State and EPA duties as specified by section 303(d) and outlined the important points of EPA's implementing regulations (40 CFR 130.7). He also described EPA's 1991 guidance that more fully describes the phased approach to TMDL development.

After this summary, Mr. Grubbs brought the Committee up to date on the current status of the program. The 1996 lists are nearing completion and EPA is committed to act where States fail. There are also currently 21 unresolved lawsuits (including notices). The main issues being addressed by the lawsuits are the content of lists, the pace of TMDL development, and implementation requirements. EPA is also developing a database to track TMDL activities, continuing to provide technical assistance, and is developing TMDL protocols for nutrients, clean sediment, bacteria, and variable flow dissolved oxygen. The agency also recently released the *Draft TMDL Program Implementation Strategy* (which were passed out to the Committee). This strategy has been developed in collaboration with regions, other Office of Water offices, and EPA's Office of General Counsel. The strategy identifies EPA's vision, priorities, and areas of concern and also outlines actions that are already underway or planned.

Comments on the draft strategy will be incorporated and it will become final next year.

Mr. Grubbs noted that the FACA Committee can play a key role in addressing specific issues identified in the strategy, such as:

- consolidating lists of impaired waters and setting priorities;
- setting TMDL approval and implementation criteria;
- identifying science, tools, training, and support needs; and
- reviewing schedule, pace, and oversight issues.

Following Mr. Grubbs' presentation, Ms. Prothro provided a quick summary of the issues on and off the table as far as Committee recommendations are concerned.

On the table --

- regulations
- guidance
- tool development
- strategy

Off the table --

- litigation
- legislation
- appropriations

She then opened the floor to questions for Mr. Grubbs.

Q:

Will TMDL protocols be acceptable for non-bacterial parasites like crytosporidium? In the Las Vegas and Milwaukee crypto outbreaks, all the bacteria indicators were okay. Bacteria indicators are not necessarily applicable.

A:

[Elizabeth Southerland responding] All States have designated uses for the protection of drinking water supplies. E-coli standards came out in 1986 and about nine States have those in place; however, they are intended to protect human health during recreational uses (e.g., against acute gastroenteritis) as opposed to general water quality conditions. Because of this lack of appropriate standards, it is difficult to develop cryptosporidium TMDLs.

Q:

Is it possible for the Committee to receive some more information on 319 program reinvention?

A:

Section 319 required a one-time exercise whereby States assessed and identified nonpoint sources and created a nonpoint source management program. EPA approved all State assessments and programs and administers annual grants to the States to implement their programs. Until recently, grants were provided to States on a competitive basis. In 1995, an EPA/State Workgroup was convened to reinvent the 319 program. New guidance for the 319 program, completed last year, provides that EPA will no longer use a competitive approach for providing grant funds. In return for more control over their programs, States promised to upgrade their nonpoint source management programs according to nine key elements mutually agreed upon and presented in the new guidance. We can distribute some information that more fully describes this process.

Q:

Could you provide the Committee with an update of the October 30, 1996, meeting of the State/EPA Water Operating Committee?

A:

[Bob Wayland responding] The objective of that committee is to allow senior State and EPA officials responsible for water quality to meet on a regular basis to make sure appropriate, collaborative measures are underway. We can try to provide the minutes and action items from that meeting once they are finalized.

Q:

Since litigation is specifying the pace of TMDL development, is this really an issue open for discussion?

A:

The goal of this committee should be to provide its own recommendations for the pacing issue. The Committee should not defer to the court rulings, especially because we have seen where two courts have not agreed with one another.

Q:

From what we have heard, it seems that EPA considers nonpoint source controls to be the focus of the TMDL program. In some watersheds, point sources continue to be the primary sources of pollution.

A:

Certainly, not all point source issues are resolved; however, the problems associated with point sources have been addressed for a much longer period of time than have nonpoint sources problems. In many instances it is not cost-effective to expect additional point source controls.

Q:

Can you clarify the references that are being made to Tribes, Territories, and States?

A:

Territories are included in reference to States. Tribes are regarded as being akin to States, but they have separate obligations and are not covered by State lists. We would encourage this Committee to provide advice on how to integrate all of these lands under one framework.

Roundtable on Committee Members' Association with TMDLs:

Following the question and answer period, Ms. Prothro offered each Committee and Ex-officio member an opportunity to share a general description of their experience with TMDLs.

Jane Nishida --
Ms. Nishida is the Maryland Secretary of the Environment. Her department is using TMDLs in conjunction with implementing the watershed management approach in the Chesapeake Bay watershed. TMDLs for the Bay's tributaries are already in place and they are proceeding with the citizen advisory process.

Ed Wagner --
Mr. Wagner's experience with TMDLs is less direct. He is more familiar with general watershed management issues, primarily from his experience managing New York City's wastewater management program. He said that New York realized the importance of the watershed approach years ago and has incorporated TMDLs into its approach.

Melissa Samet --
Ms. Samet's experience with TMDLs is through litigation. She told the Committee that environmental groups believe that TMDLs are a vital tool for upgrading State and Tribal water quality.

James Hill --
Mr. Hill has worked with Indian Tribes on their attempts to develop TMDL programs. He recognizes that incorporating TMDLs into a watershed approach will provide Tribes with a better opportunity to address TMDLs without having to convert or adapt other programs.

Robert Olszewski --
Mr. Olszewski has dealt with TMDLs through his experience with the forest products industry, which is experiencing uncertainty and frustration about how TMDL development will affect business planning. Forest product companies want to obtain a clear understanding of the status of endangered streams and their responsibility in improving them.

L.D. McMullen --
Dr. McMullen's background is in drinking water issues. He would like to see how TMDLs can help fill the gap between drinking water and source water protection programs. He believes that water utilities will continue to be key players in efforts to protect source waters, especially with the new Safe Drinking Water Act.

Linda Shead --
Ms. Shead has been told that her state (Texas) has more TMDLs than any other state. They are pursuing modeling as a means to help generate TMDLs for toxics. They know the quantity of toxicities entering surface waters, but need more information on the consequences of these discharges.

Lydia Taylor --
Ms. Taylor has had a long history of involvement with TMDLs through her experience with the Oregon Department of Environmental Quality. She feels an important issues is the lack of information on nonpoint sources. The litigation in her state is putting pressure on the agricultural community, but it is rising to meet the challenge.

Cheryl Creson --
Ms. Creson works for the Sacramento Regional County Sanitation District. She is very interested in basing lists and TMDLs on good science. They are proactive in Sacramento and have started a watershed management program for the Sacramento River watershed. Ms. Creson stressed the importance of working collaboratively with stakeholders to improve water quality.

Susan Sylvester --
Ms. Sylvester is the administrator of the Water Division in the Wisconsin Department of Natural Resources. Because it has many pristine waters, the State is looking at redesignating water quality standards. The state would like to see a stronger emphasis placed on data quality. Wisconsin is also concerned about translating generalities to individual dischargers and opening the door for dischargers to point out the lack of data. The state is looking to use TMDLs as a tool in conjunction with its move to the watershed approach.

Rick Parrish --
Mr. Parrish is with the Southern Environmental Law Center and is most concerned with implementation issues at the State level. EPA and the Committee need to be careful to remember that some States are way behind the curve and yet are still cutting their environmental budgets. We need to be pragmatic and realistic in discussing the program.

Phil Cummings --
Mr. Cummings served for 18 years as a staff member on the Senate Environmental Committee and was involved in drafting the original 1972 Clean Water Act and the 1977, 1981, and 1987 amendments. He acknowledged the difficulty in getting beyond technology-based requirements. Mr. Cummings would like to explore issues associated with the quality of data, process requirements, implementation, and equity.

Danita Rodibaugh --
Ms. Rodibaugh is part of an agricultural industry environmental assurance program, which is a water quality protection program as well as an environmental enhancement program. She also interfaces with the Natural Resources Conservation Service (NRCS), EPA, and other agricultural groups on guidance and resource management planning. She is most interested in learning about the impact TMDLs will have on the agricultural industry and how all of the various State and Federal programs can work together.

Nina Bell --
Ms. Bell is involved in litigation in both Washington and Oregon. She has worked on developing water quality standards for both states, and has wrestled with technical and policy issues in trying to move TMDLs forward. Her biggest concern is with implementation and she would like the Committee to spend some time reviewing section 303(e).

William Nielsen --
Mr. Nielsen is a member of the National League of Cities. He is from Wisconsin, which is usually out in front on environmental issues. He feels that nonpoint sources represent a greater challenge than point sources, which have been addressed in the past. Due to his work at the local level, he has experienced implementation issues first hand. He sees opportunities to address these issues by building flexibility into the TMDL program.

Dale Givens --
Mr. Givens works for the Louisiana Department of Environmental Quality and believes that TMDLs represent one tool in a State or Tribal toolbox. States and Tribes can draw what tools they need from the box to achieve water quality standards, but must remember that using a tool must also be accompanied by using solid building materials. This means developing appropriate criteria at the federal level, implementing standards at the State level, and, most critically, assessing and listing waterbodies meaning fully.

Fredric Andes --
Mr. Andes has been working in the Great Lakes Basin over the past five years to develop the federal role which specifies what States need to do on TMDLs. He noted that some states are not using watershed based approaches and is interested in hearing why these states feel their approaches are better. He is also interested in the basis for listing waters and the issue of recognizing priorities.

John Barrett --
Mr. Barrett's experience with TMDLs is through his experience as a farmer. He noted that, with the assistance of the NRCS, the agricultural community has made tremendous strides in addressing soil erosion in the last 25 years. He notes that this has not been driven by litigation or by fear, but has been driven by the desire of farmers to conserve their soil. He is concerned that the litigation process could derail this effort by diverting federal resources to modeling as opposed to on-the-ground practices.

John Burt --
Mr. Burt is with the NRCS and has been involved in the TMDL issue for a long time. NRCS has several concerns, especially regarding the technical aspects of how to do a TMDL. The Agency is working with EPA to develop better tools to assess loads and background levels and coming up with realistic reduction goals. Improvements in the 1996 Farm Bill will help to continue efforts to protect watersheds by supporting such efforts as leasing lands to create buffers for streams and restoring wetlands to help reduce loads.

Art Bryant --
Mr. Bryant works with the Forest Service, which is responsible for managing a great deal of federal lands that have listed waterbodies. The goal of the Agency is to manage those lands as environmentally sound as possible, particularly from a water quality standpoint. Mr. Bryant stressed the importance of State-Federal and Federal-Federal partnerships in working to achieve water quality goals.

Review/Modification of Committee Charge:

Following the lunch break, Ms. Prothro facilitated a discussion among the Committee regarding the charge. This discussion led to several minor adjustments that helped clarify more precisely the audience for the Committee's recommendations.

One of the key questions asked during the discussion was whether the Committee should add a reference to section 303(e) in the charge. Section 303(e) establishes the Continuing Planning Process for States to implement water quality management programs, including TMDLs, NPS controls, etc. Mr. Grubbs requested that, apart from its connection to section 303(d), section 303(e) not be a part of the Committee's discussions. The Committee agreed to not add this reference to the charge.

Review/Modification of Ground Rules:

Following the discussion of the charge, Ms. Prothro facilitated a discussion regarding the Ground Rules. Several important decisions were made during this discussion, including:

- Members cannot have someone else represent their interest if they are unable to attend a meeting or have to leave the Committee.
- Members agreed to not attribute specific statements to other Committee members. They also agreed that, when discussing the activities of the Committee, they could say what they would "like" to see happen, but could not predict outcomes.
- The members decided to begin operating on a full consensus basis (i.e., no voting).
- Given the confidentiality of matters related to litigation, it was agreed that no member would be asked to disclose anything subject to attorney-client privilege.
- The Committee agreed that members absent from meetings could forward comments about a particular issue through the facilitator.

Listing of Impaired Waters:

Donald J. Brady, Chief of EPA's Watershed Branch, next gave a presentation on TMDL listing issues to prepare the Committee for its discussion on this topic. In opening his presentation, Mr. Brady stated that the listing issue really revolves around the fact that some people believe the 303(d) list should be a list of all impaired waterbodies in a State, while others feel it should be more of a short-term TMDL work plan. He then went on to explain current listing requirements.

Under current listing requirements, States must:

- Submit a list every two years to coincide with 305(b) reporting;
- list all impaired waters and the source of impairment;
- base listings on existing and readily available data;
- prioritize waterbodies based on designated uses and the severity of impairment; and
- target waterbodies for which TMDLs will be developed over the next two years.

EPA must approve or disapprove State lists within 30 days of their submission and must complete lists in cases where States fail to do so.

Mr. Brady then turned to identifying listing issues that the Committee may want to address, including the following questions:

- Should States list waters regardless of the cause of impairment (e.g. air deposition, background, etc.)?
- What is existing and readily available data?
- What is the relationship among different lists [e.g., 305(b) vs. 303(d)]?
- At what pace should TMDLs be developed and implemented?
- What does it mean to be listed?
- How are priorities assigned?
- How often should lists be submitted?

Following Mr. Brady's presentation, Ms. Prothro opened the floor to questions/comments.

Q:

What are the implications for being on the 303(d) list, other than needing a TMDL?

A:

[Lydia Taylor responding] In Oregon, an increase in loadings is prohibited for listed waters until a TMDL is completed. This is a serious issue for business. This would also apply to any new sources.

Q:

Does 319 assessment apply to only non-supporting waters?

A:

[Geoff Grubbs responding] Section 319 assessments are different than 303(d) assessments. 319 assessments identify areas where waters are impacted or threatened by nonpoint sources.

Essentially, the 319 list is one of several examples of a list that is similar to but different than the 303(d) list.

Q:

Do you list waters that have been tested by monitoring techniques not approved by EPA?

A:

[Geoff Grubbs responding] There is very specific guidance on how to use data for 305(b) listing. This needs to be addressed further, though, for 303(d) listing.

Brainstorming Session on Listing Issues:

Mr. Brady's presentation and the question/comment period led directly into the next item on the agenda, which was a session designed for the Committee to identify listing sub-issues that need to be addressed. The Committee spent a good deal of time identifying these sub-issues and then categorized them into major issues along the lines of those proposed by Mr. Brady.

1. PURPOSE OF THE LIST (and administrative matters)

- consistency/flexibility among States
- overall purpose of list (e.g., "short list" vs. "long list")
- how to deal with water quality standards that may be inappropriate/inadequate
- mechanism for tracking TMDLs developed using the phased approach, or listed waters for which TMDLs have not yet been developed

2. IMPLICATIONS OF BEING/NOT BEING LISTED

- relationship of 303(d) list to other lists (also #1)
- equity issues associated with implications of being listed

3. BASIS FOR LISTING DECISION

- application of narrative criteria (e.g., sediment, biological criteria)
- application of "expected to meet" water quality standards language as a basis for not listing
- habitat modification
- how is water quantity taken into account
- establishing decision matrix
- listing of wetlands
- violation of anti-degradation (whether states are listing on this basis)
- listing threatened waters
- how to consider "best professional judgment" in how list is used and documented
- data quality (how to ensure that quality is high)
- using "beneficial use support" as basis of listing (especially drinking water)
- how to deal with air deposition and natural background sources

4. PRIORITIZATION/TARGETING

- how to take geographic size into account/practicality of doing TMDLs
- how to incorporate environmental justice concerns in targeting (also for #3)
- need to list for all parameters that are exceeded/uses that are impaired (also #3)
- how are State (or Tribal) resource constraints taken into account (given implications of listing) (also #3)
- how to incorporate environmental justice concerns (also #3)
- how to consider risk to health and environment in listing/prioritization/targeting
- criteria for prioritizing waters on the list
- equity issues associated with prioritization and targeting (uncertainty for point sources associated with not having a TMDL in place)

5. DE-LISTING (UAA)

- what are de-listing criteria
- application of new standards (or new criteria) when updating list (also #3)
- how to determine listing when attainability not possible (background conditions)

6. INTERSTATE/TRIBAL JURISDICTIONAL

- how incorporate Tribal treaty rights (also #3, #4)
- general interstate/Tribal issues in listing

Public Comment Period:

The opening day of the meeting ended with Ms. Prothro opening the floor for public comments. Most of those who spoke stated that they thought the Committee was progressing well and that they would have comments later as the process unfolds.

Total Maximum Daily Load (TMDL) Program

FEDERAL ADVISORY COMMITTEE ON TOTAL MAXIMUM DAILY LOADS (TMDLs)

Draft Summary of Meeting One

November 19-21, 1996
Dulles Airport Hilton
Herndon, VA

Wednesday, November 20, 1996

Note: This summary of the November FACA meeting is still in draft form. It will be reviewed by the full FACA Committee and, if necessary, revised at the February 19-21, 1997 meeting in Galveston, Texas.

Logistical Items:

On the morning of the second day of the meeting, Bob Adler introduced himself to his fellow Committee members and apologized for missing Day One. The facilitator also noted that Art Bryant would not be able to attend the Day Two session.

After covering several other logistical issues, the facilitator introduced Mr. Michael B. Cook, Director of EPA's Office of Wastewater Management (OWM).

Brief Presentation on Wet Weather Advisory Committee:

Mr. Cook provided a summary of the activities of the Urban Wet Weather Flows Advisory Committee, especially as they relate to issues that will also be confronted by the TMDL Advisory Committee. He explained that there are actually three subcommittees that comprise the Wet Weather Advisory Committee and that these three subcommittees have focused on somewhat different issues. One subcommittee is focusing on cross-cutting issues associated with implementing the watershed approach, a second is focused on improving the stormwater Phase I program, and the third is addressing water quality standards as they relate to wet weather issues.

Mr. Cook next identified five issues that he believes would be common to both the Wet Weather and the TMDL Advisory Committees.

1) Importance of good science. Mr. Cook noted the importance of taking a watershed approach to solving wet weather problems and the potential that exists for allowing tradeoffs in controls throughout a watershed. He pointed out that it takes a solid scientific basis to be able to do this, however, because allowing tradeoffs in controls depends on being able to accurately predict the overall impact to water quality. Unfortunately, much of the work that has been done to date has been for dry weather issues. There is a need to address the more dynamic and complex conditions associated with wet weather events.

2) Monitoring. Another common issue is the role of monitoring and the States' belief that their monitoring resources are declining. Mr. Cook's sense is that the total amount of monitoring may well be sufficient, but that there needs to be less and more focused discharge monitoring to allow for greater ambient and biological monitoring. Mr. Cook believes the States need to take the lead in accomplishing this.

3) Fair-share allocation. Another common issue is the tension between requiring proportionate load reductions from the pollutant sources in a watershed while still upholding the concept of reasonable assurance (i.e., that the implemented controls will provide for the attainment water quality standards). Mr. Cook explained that, because point source controls are more certain than BMPs for nonpoint sources, point sources often receive a disproportionate share of load reductions. The point sources want to see a greater use of incentives and other mechanisms to be able to achieve greater reductions from nonpoint sources.

4) Phased approach. Because of the uncertainty associated with nonpoint source controls, the wet weather committee has also discussed using a phased approach to watershed management. For example, they do not feel that it is appropriate to assign numerical loads to stormwater sources because of the uncertainty in effectiveness. The idea is to start with minimal best management practices (BMPs) and then revise them if water quality standards are not achieved.

5) Water Quality Standards. The Wet Weather Advisory Committee has discussed several issues associated with water quality standards. One particular concern the committee has is that some criteria might not be appropriate for episodic events. Another concern has to do with how designated uses are interpreted and whether they are always appropriate (e.g., having to meeting designated swimming uses for beaches all year-round in northern climates). A great deal of money could be saved by allowing more flexible interpretations.

After Mr. Cook finished his presentation, he answered several questions from the Committee.

Q:
Will the Wet Weather Committee provide a recommendation on allocation issues?

A:
Yes, the Committee is anticipating coming up with an interim policy regarding this

issue.

Q:

Has the Committee discussed the responsibility for accounting for background and natural sources?

A:

Yes, it is likely that there will be a recommendation to provide some flexibility in the permit process for these situations.

During this question and answer session, the Committee also requested a summary of states that currently have nonpoint source regulatory measures, a definition for what is considered an extreme event, and something that better explains the distinction between the role of the Wet Weather FACA and the TMDL FACA. EPA agreed to provide these materials.

Following this question and answer period, Ms. Prothro introduced Bruce Zander, one of EPA's National Experts on TMDLs, who addressed the issue of TMDL approval criteria.

Criteria for Approval of State/Tribal TMDLs:

Mr. Zander presented the Committee with an overview of the issues associated with EPA's duty to approve or disapprove State and Tribal TMDLs. He began by discussing how Congress may not have chosen the most appropriate nomenclature for what has come to be known as a TMDL. A TMDL doesn't necessarily always include a "load" (e.g., a thermal TMDL), nor are the loads always "daily" (e.g., annual load). In some cases TMDLs aren't "maximums," either (e.g., a minimum dissolved oxygen concentration). He went on to explain that TMDLs are complicated because they must address a wide range of environmental conditions, water quality standards, and political conditions.

Mr. Zander summarized what he wanted to present to the Committee in the following four questions:

1. Do we need to assure better consistency from TMDL to TMDL while still allowing flexibility?
2. What water quality standards can or should be dealt with by TMDLs?
3. Should standard allocation guidelines be developed to assure concepts such as equity and cost effectiveness are addressed?
4. Should provisions related to TMDL implementation be included in minimum review criteria?

Mr. Zander next summarized the most important source documents that discuss TMDLs. He pointed out that section 303(d) of the Clean Water Act specifies that TMDLs are necessary to implement water quality standards, that they are to be established for essentially all types of pollutants, and that they are to be established with seasonal variations and margin of safety. He also noted that the Act directs that TMDLs shall be estimated for all State waters (not only listed waters). Mr. Zander also summarized the December 29, 1978 Federal Register Notice that explained that TMDLs were suitable for all types of pollutants (e.g., habitat degradation, thermal pollution) and that specified that water quality standards include designated uses, numeric and narrative criteria, and antidegradation requirements. Mr. Zander explained that the 1992 regulations introduced the concept of the TMDL equation (TMDL = sum of WLA + sum of LA) and questioned whether this formula might be too restrictive for some situations. EPA's 1991 guidance added a few new wrinkles to TMDLs by illustrating that they are one component of the entire watershed planning process and introducing the concept of phased TMDLS.

After summarizing these source documents, Mr. Zander provided the committee with a potential checklist of both mandatory and supplemental TMDL review criteria. He then provided three examples of "off-center" or "non-traditional" TMDL examples to illustrate the dilemma that EPA often faces in their approval/disapproval process.

The first example was the Clark Fork River in Montana. Region 8 hopes to soon have a TMDL submittal for this waterbody that addresses the algal and macrophytic growth caused by nutrient loads from primarily municipal and industrial dischargers. The TMDL will cover only several segments of the Clark Fork where the algal growth is the worst in Montana. The reasonable assurance for the load reductions will rely on National Pollution Discharge Elimination System permits, as well as a Memorandum of Agreement (MOA) between the principle stakeholders. This is a fairly straightforward TMDL, but it illustrates the wide variety of geographic and political conditions that exist for many listed waters.

The second example was for Deep Creek, Montana. This waterbody suffers primarily from sediment problems and is a very important ecological resource in its watershed. The local group, with only a $15,000 budget, approached the development of a TMDL by identifying appropriate temperature and biologic endpoints. It was determined that the source of the sediment was the stream itself and so the TMDL was defined in terms of targets for the channel length, a reduction in the percentage of erosive banks, and a minimum flow. These quantitative targets were based on the best professional judgment of aquatic biologists. EPA approved this TMDL even though it was recognized that the controls would only be implemented if funding became available.

The third example was Godfrey Creek. This was a section 319 project that was attempting to address a variety of pollutants (sediments, fecal coliforms, nitrates, and phosphorus). The local community chose as their target an 80% reduction in each of these pollutants, again based primarily on best professional judgment. The reductions were to be achieved by implementing a variety of dairy, grazing, and farming BMPs. There were no efficiencies assigned to individual BMPs, though, and the implementation of the BMPs again depended on acquiring funding. In response to a question from the committee, Mr. Zander said that Godfrey Creek had no numeric criteria (except for fecal coliforms), and that it had been listed based on violations of narrative criteria.

After describing these three examples, Mr. Zander discussed further the issue of whether Implementation should be a required component of an approvable TMDL. The current condition is that the CWA and EPA regulations do not address implementation other than through the NPDES program; nor do the Act or regulations provide any authority to States, Tribes, or EPA to implement TMDLs. Only the Great Lakes Water Quality Initiative provides that TMDLs must reflect reasonable assurances that water quality standards will be attained in a reasonable period of time.

Mr. Zander then provided a set of potential administrative, financial, and political implementation criteria.

Administrative:

- Are regulatory/enforceable programs being used to implement the TMDL?
- If non-regulatory programs are being used, is there a past record of success with the entities responsible for implementation?
- Are the provisions of the TMDL incorporated into a plan with appropriate schedules for implementation?
- Is the implementation of the TMDL coordinated with other planning efforts within the watershed?

Financial:

- Are regulatory/enforceable programs being used to implement the TMDL?

- If the local entity has to raise revenue, what is the likelihood, for example, of a bond initiative passing?
- If a Federal land management agency is involved, will they have authority to spend the needed funds in a reasonable time?

Political:

- Is there a showing of support from the stakeholders involved in the community?
- Are there appropriate memoranda of agreements for TMDL implementation between the various landowners where there are multiple landowners within a watershed?

Mr. Zander concluded his remarks by reiterating the four questions he proposed to the committee (see above), and then answered several questions.

Q:

Have you looked at TMDL equivalents such as Forest Plans?

A:

Yes, the criteria for approval would be very similar, but the issue would be whether EPA could de-list a water based on a TMDL-equivalent.

Q:

How should EPA deal with the issue of background sources of pollution?

A:

The general premise has been that for waters that are impaired by natural phenomena, the water quality standard should be changed (i.e., the designated use is inappropriate).

Q:

How should atmospheric loadings be addressed?

A

Too often it is assumed that nothing can be done to control atmospheric sources. Sometimes the party developing the TMDL can in fact influence these sources. If atmospheric loadings truly cannot be addressed, they can be treated similarly to natural background sources (i.e., perhaps change the standard.)

Q:

What is the difference between a 303(d)(1) and a 303(d)(3) antidegradation TMDL?

A:

They would essentially look the same; however, one would be on a state's list while another would not. There is a disparity in that some states list their threatened waters while others do not.

Q:

What is the difference between reasonable assurances for point sources and nonpoint sources?

A:

[Geoff Grubbs responding] This was dealt with in 1991 guidance by stating that phased approach should be used when the effectiveness of controls is unknown. Mr. Zander also pointed out that uncertainty is not only restricted to nonpoint sources. For example, there was an example in Denver where the impact to stream habitat from decreasing chlorine concentrations from a treatment plant was unknown.

Q:

Could you talk a little about the factors that go into allocating loads.

A:

There is no prescriptive means of allocating loads. There are several studies that have tried to evaluate the different approaches that states have taken, one of which is a master's thesis sponsored by Region 8 that we can provide to you. Most allocation schemes have dealt with point sources. Some examples are: equal load to each source, equal concentration from each source, proportionate reductions, allocating loads on a seasonal basis, and allowing the local stakeholders to figure it out themselves. Another complicating issue is the spatial dimension of the allocation (e.g., how to allocate for a one-mile reach vs. a 100 mile river).

Geoff Grubbs added that EPA feels strongly that the allocation issue should be decided at the State or local level. EPA allocates loads only in a few instances, such as where they have a court order to implement the TMDL.

Q:

Could you explain a little about how TMDLs fits into the watershed approach?

A:

Some TMDLs lend themselves very well to the watershed approach, such as when the protected waterbody is a terminal waterbody that receives nutrient loads from throughout the watershed. However, in instances where standards need to be met throughout a watershed (e.g., for metals), there need to be a number of supplemental TMDLs. An example of this is the Columbia River basin TMDL and the confusion regarding whether this is one TMDL or a number of supplemental TMDLs.

Q:

How is the decision made whether controls will be regulatory or voluntary?

A:

That decision is made at the local level.

Q:

Where is the decision point where the cost of point source treatment outweighs the benefit?

A:

Again, that occurs at the State or local level. EPA counsels States to look at every conceivable way to reduce pollutants most efficiently. A good example of this is the watershed-based trading framework that was released this spring.

Geoff Grubbs pointed out that the Clean Water Act doesn't provide a great deal of latitude in this regard because of its unequal treatment of point and nonpoint sources. The Act provides that point sources have an overriding obligation to meet water quality standards through the permit process. This somewhat limits the flexibility that States have to reduce costs most efficiently.

Q:

What is the difference between regulations, guidance, policy, and frameworks?

A:

[Geoff Grubbs responding] There is a whole lineage of these terms whose meanings is each a little different. Regulations carry substantially more weight than guidance. This has been borne out in some of the litigation we are dealing with. The role of guidance is to attempt to provide for some consistency between State and Regional TMDL programs.

Q:

From EPA headquarter's perspective, how effectively is guidance being followed?

A:

The sense is that guidance is being followed fairly well, although there are some exceptions.

Following the question and answer session, the Committee took a short break and then went through the process of identifying the issues and sub-issues related to TMDL approval. Several additions and modifications were made to the original four issues identified by Mr. Zander and the following issues were agreed upon:

1. TMDL CONSISTENCY/FLEXIBILITY

- common definition of TMDL (not only dilution analyses, not only point sources)
- clarifying load allocations vs. wasteload allocations
- requirements for EPA approval checklist
- specificity or vagueness of approvable TMDL
- how "quantified" does quantified have to be
- "leveraged" TMDLs; assurance of sufficient oversight and public participation
- maintain creative, flexible approaches--focus on results
- selective approval of TMDLs
- partial approval of TMDLs
- State vs. EPA development of TMDLs
- linking to other requirements (e.g., setting standards, use determinations) (also #5)
- does the Clean Water Act require TMDLs for segments without point sources?
- templates for developing approvable TMDLs

2. SCOPE OF TMDL (e.g., CHEMICAL VS. NON-CHEMICAL)

- anti-degradation TMDL
- water rights
- drinking water issues; beneficial use considerations
- ramifications of pollutant-specific requirement

3. ALLOCATION/EQUITY GUIDELINES

- point source obligations for nonpoint source reductions
- how to consider atmospheric deposition, natural background in allocations (also #2)
- how to consider growth in allocations
- tradeoffs of municipal point vs. nonpoint sources
- necessity of considering all sources for allocations

4. IMPLEMENTATION/EVALUATION

- legal requirement for implementation
- financial assurance for implementation as criteria for approval
- phased TMDL; assurance that next phase occurs
- implementation on Federal lands
- enforceable vs. voluntary implementation mechanisms
- sufficiency of "phase I" in phased TMDL
- (for nonpoint source controls) sufficient feedback loop to show that TMDL is sufficient
- consideration of all authorities in implementation [no waste provisions of existing water rights (also #5)]
- sufficiency of BMPs in meeting nonpoint source load allocation
- tie funding (319) to implementation of nonpoint source controls
- implementing 303(e) to achieve water quality and equity
- other implementing mechanisms
- trading and incentives
- liability associated with implementation

- pace of doing TMDLs and impact on quality of TMDLs (also #1)
- is 303(d) an unfunded mandate?
- monitoring to determine if TMDL is working
- when is citizen monitoring appropriate?

5. PROCESS/PUBLIC PARTICIPATION

- functional equivalents: definition
- self-determination of stakeholders
- upstream vs. downstream (jurisdictional issues)
- technical resources necessary to support meaningful public participation
- public participation in State actions, and/or Federal review and approval
- general public involvement as criteria for approval
- getting information to targeted public
- report costs associated with implementation/allocation to public

6. SUFFICIENCY (GEOGRAPHIC SCOPE AND IMPLICATIONS FOR PACE)

- appropriate geographic scope for doing TMDL
- pace
- dry vs. wet weather TMDLs
- assurance of implementation of NPS controls
- determining "safe harbor" vs. being out of compliance
- (also #4) examining to what extent deadlines are required:
  - for meeting water quality standards
  - within TMDLs
- margin of safety and phased implementation (and implementation in general)
- are TMDLs <u>daily</u> loads?

<u>Management of the TMDL Program:</u>

The next item on the agenda was EPA management and oversight of the TMDL program. Don Brady gave a short presentation outlining the management issues that he would like the Committee to address. He discussed a number of items that had come up previously (e.g., the issue of time frames, public participation, and Tribal issues) from the perspective of what role EPA should play. He also brought up the issue of State/EPA planning processes and how TMDLs should be incorporated into EPA work plans, State grants, and Performance Partnership Agreements. Another issue that Mr. Brady raised was the importance and difficulty of being able to track TMDLs. Following his presentation, the Committee had several questions.

Q:

How difficult is it to track TMDLs that EPA has already approved?

A:

It's not as easy as it might seem. Different States and Regions treat their lists differently (i.e., some remove waters from the list once controls have been implemented) and there are just a lot of waterbodies to keep track of. EPA is now developing a plan for an electronic system that will be able to georeference waterbodies. This plan should be ready in the spring of 1997.

Q:

How do States' Performance Partnership Agreements relate to EPA management of the TMDL program?

A:

[Mr. Grubbs responding] There is a commitment at high levels of EPA to allow States to manage their environmental programs more freely. This was borne out in 1995 appropriations when EPA was allowed to provide block grants to States in return for Performance Partnership Agreements. This process is still evolving, but it provides a great deal more flexibility to States. There is nothing in the PPA's, however, where States' promise to do X number of TMDLs per year.

Comment from State Representative:

It is important to recognize that PPAs don't absolve States from carrying out any programmatic requirements. They don't increase the size of the pie, they just provide a different mechanism for allocating the pieces of the pie.

Q:

Is there a reason for this Committee to look at how TMDLs should be incorporated into PPAs?

A:

[Geoff Grubbs responding] PPA's are just one example of the ways in which States and EPA need to be coordinated when managing the TMDL program. The Committee probably doesn't need to spend a lot of time focusing specifically on PPAs.

At this point a question arose concerning the relationship between EPA and Tribal governments. Jim Hill summarized the historical background concerning the implementation of environmental statutes on Indian lands and said that some Tribes are more advanced than others in implementing Clean Water programs. Overall, the Tribes are behind the States in managing these programs because they have only recently been established and because of funding constraints. Mr. Hill also explained that some of the same types of issues that arise when discussing TMDLs have been addressed by Tribes in conjunction with the Clean Air Act's requirement to develop implementation plans.

After listening to Mr. Hill, the Committee began the process of identifying the sub-issues that will be addressed under the topic of EPA management and oversight of the TMDL program.

1. TIMEFRAME AND BASIS FOR ACTION

- timing of implementation
- process for EPA approval for lists and TMDLs (level of review) (also #2)
- presentation of information, e.g., "decision matrix" (also #4)
- timing and pace of TMDLs in States without litigation (perhaps to be discussed in "Criteria for TMDL development and approval" issue list)
- threshold for EPA action

2. PUBLIC NOTICE AND PARTICIPATION

- citizen monitoring--encouragement and use
- timing and extent of public participation (related to overall management of the program)
- what constitutes meaningful public participation

3. STATE/EPA PLANNING PROCESSES

- incorporation of TMDLs into Performance Partnership Agreements
- relationship of TMDLs to EPA work plans, State grants, etc. (and implications for State/federal relationship)

- consistency/flexibility in EPA oversight among States/Regions

4. TRACKING/REPORTING

- phased TMDLs/EPA oversight over time
- functional equivalents (RAP, LAMP, etc.); what is EPA process for overseeing State mechanisms (e.g., permit veto as allocation review method)
- WQLS having a TMDL: which list does it go on?
- tracking approved TMDLs
- tracking lists

5. TRIBAL ISSUES

- statutory interpretation of Section 518
- Tribal sovereign authority for TMDLs without TMDL approval
- direct federal implementation of TMDLs on Tribal lands
- consideration of cultural issues in TMDL development (in determining beneficial uses or using State standards that do not consider cultural factors)
- EPA-Tribal partnerships where Tribes have (and/or have not) developed water quality standards
- timeframe for action where Tribes have (and/or have not) developed water quality standards
- environmental justice/equity issues (in funding and other areas)
- creating additional guidance/regulations for Tribal TMDL activities
- EPA/Tribal agreements
- State/Tribal coalitions
- Funding and other constraints in TMDL listing and development
- does approval for water quality standards imply approval for 303(d)?

6. FEDERAL COORDINATION

- coordination among federal agencies for TMDLs on federal lands
- EPA coordination with federal agencies and other EPA offices having some jurisdiction (e.g., FWS consultation under ESA)?
- how to integrate with Coastal Zone Management Act
- coordination with other agencies with money

Public Comment:

After the management/oversight discussion, Ms. Prothro asked if any members of the public would like to make a comment. Norman Black from the Hampton Road Sanitation District in southeastern Virginia told the Committee members he would like them to remember the overall watershed management process and the ultimate goal of the TMDL program. TMDLs have traditionally been an accounting process, but we must remember that the public cares more about clean water and having safe fish to eat than they do about numbers. The Committee also needs to remember that the people who will actually carry out the activities being discussed are the local utility managers, city council members, etc. who will be held accountable for money that is directed toward TMDLs at the expense of roads, schools, and other public goods.

FEDERAL ADVISORY COMMITTEE ON TOTAL MAXIMUM DAILY LOADS (TMDLs)

Draft Summary of Meeting One

November 19-21, 1996
Dulles Airport Hilton
Herndon, VA

Thursday, November 21, 1996

Note: This summary of the November FACA meeting is still in draft form. It will be reviewed by the full FACA Committee and, if necessary, revised at the February 19-21, 1997 meeting in Galveston, Texas.

Science and Tools:

The final day of the meeting began with a presentation from Elizabeth Southerland, Acting Director of the Standards and Applied Science Division of the Office of Water's Office of Science and Technology. Ms. Southerland addressed issues associated with the science and tools that are used to develop and implement TMDLs and began her presentation with a description of the three components of water quality standards:

1. Designated beneficial uses;
2. Narrative and numeric criteria; and
3. Anti-degradation policy.

She told the Committee that EPA has guidance for numeric criteria, but that States can use their own criteria as long as they are scientifically defensible. She explained that narrative criteria, such as those based on flow, do not have a numeric value and this can be problematic when a TMDL must be developed. The anti-degradation component of water quality standards is designed to protect or enhance existing beneficial uses.

To develop TMDLs, States must determine:

- what is causing the problem;
- how much loading is acceptable;
- the loadings from each source (point and nonpoint sources included); and
- the distribution of the allowable load between various sources and the margin of safety. (The margin of safety can incorporate the concept of reasonable assurance by being very conservative).

TMDL analyses can generally be grouped into five types, moving from more simple, steady-state modeling of limited pollutant sources to dynamic modeling and more diverse pollutant sources. As the issues become more complex and models become more dynamic, the cost associated with developing TMDLs increases. Ms. Southerland told the Committee that in some cases sixty percent of the costs associated with developing TMDLs can fall in the "analysis phase" (e.g., data collection, analysis, modeling, allocations). She also identified several models that can be used for each type of analysis, including EPA's new BASINS model.

There are several challenges States and Tribes face in developing TMDLs, including the following:

1. There are often several uncertainties associated with developing TMDLs. These include the difficulty associated with relating water quality changes to beneficial use impairment, the uncertainty associated with developing TMDLs where water quality standards do not exist (e.g., on some Tribal lands), and the problem of establishing a numeric endpoint where only narrative standards exist.
2. It is very expensive to gather edge-of-field pollutant runoff from individual farms.
3. There is incomplete information on the effectiveness of BMPs.
4. It is expensive to collect the monitoring data necessary to calibrate and verify TMDL models.

Following the presentation, Ms. Prothro opened the floor to questions/comments for Ms. Southerland.

Comment:

Several committee members brought up the issue that it can be very difficult to conduct accurate modeling because of the variability in factors such as agricultural crop cover and slope, tidal flows, atmospheric deposition, etc. As an example, one member explained that in Minnesota two lakes that are adjacent to one another display different effects from the atmospheric deposition of mercury. In one, mercury is high in fish tissue samples while in the other the mercury concentrations are low because the lake methylates mercury.

Q:

How widely used is HSPF (Hydrological Simulation Program - FORTRAN), which is incorporated within BASINS?

A:

It has been used in a number of instances, such as for agricultural modeling in Walnut Creek, the Rouge River, the Chesapeake Bay, and Texas. HSPF is very useful for modeling water quality changes in large waterbodies.

Comment from EPA:

The Committee may want to consider scheduling a walk through of BASINS at a future meeting. Additionally, two- and three-dimensional lake models are currently in development that will be able to model stratification; these should be available next year.

Q:

Data is a major cost component in developing TMDLs. What impact will state budget cuts on monitoring have?

A:

This may be an issue that needs to be presented to state legislatures. If appropriate monitoring is not available, States will have to rely on default information and pursue additional monitoring only for high-priority areas.

Comment:

In many cases, dischargers may be asked to pay for monitoring because permits cannot be issued without appropriate data. It is an advantage for dischargers to monitor loadings and water quality because this usually results in a more realistic permit (i.e., when information is lacking, there is a tendency to be conservative in issuing permits).

Comment:

There are cases when TMDLs require very detailed analysis. For example, it is difficult to consider back-to back hurricanes like we experienced this year. We need to spread the costs of monitoring/TMDL development among more people. In Louisiana, for example, TMDLs are 100 percent fee-based. States need to prioritize their issues and send a clear message to Congress that more funding needs to be appropriated for TMDLs.

Comment:

In some States, TMDLs are developed almost solely using the simple, Type I analysis that you described previously. It will take years for these states to increase their level of expertise if they are told to do so. In the interim, load reductions will be allocated through permits to the point sources.

After making a list of potential issues to be addressed, the Committee created major topic headings based on the four challenges previously presented by Ms. Southerland. These issues and sub-issues were organized as follows:

Science and Tools Issues:

1. WATER QUALITY CHANGES RELATED TO USE IMPAIRMENT

- decision making under uncertainty
- field tile drainage (nutrient transfer)
- habitat--how to approach, set goals related to habitat
- environmental justice
- make sure science is related to actual use (e.g., carp consumption/subsistence fishing/types of species examined)

- (and To Do) explore utility of biocriteria for certain issues/problems
- (and To Do) whole effluent toxicity

2. MONITORING STRATEGIES

- basis of issuing permits on Tribal lands
- Trust responsibility issues/liability
- ensure monitoring is tied to standards, especially beneficial uses
- ensure monitoring is tied to models that are used
- lack of wet and dry atmosphere deposition (quantity, source)
- general comfort with biological transport models (bacterial, viral)
- ensure development of appropriate monitoring strategy (overall, not just for TMDL program)
- geographic scale
- difficulty in measuring impacts from forestry
- make sure science is related to actual use (e.g., carp consumption/subsistence fishing/types of species examined)
- consider end goal in monitoring

3. BMP EFFECTIVENESS

- difficulty in measuring impacts from forestry
- ensure that iterative approach works (to understand BMP effectiveness), focus on monitoring plan
- consider demos (resource)

4. EXPENSE AND QUALITY OF MONITORING

- tools to reduce data need while maintaining quality/achieving results
- data quality/ensure good data
- need to use citizen data (don't necessarily wait for perfection, general guidelines)
- (also tools, criteria, implementation) need to look at resources for implementation and habitat restoration
- margin of safety--science, tools
- reserve for growth

5. MODEL ENHANCEMENTS

- research on fate and transport surrogates for water quality parameters (e.g., TSS)
- better multi-dimensional modeling (estuary, etc.)
- field tile drainage (nutrient transfer)
- general comfort with biological transport models (bacterial, viral)
- focus on other non-flowing systems (lakes, wetlands)
- investigate using models developed by other agencies, as well as, state agencies (especially if decide to focus on smaller watersheds), Agricultural Research Service, etc.
- geographic scale
- difficulty in measuring impacts from forestry
- where related, ensure flow issues (withdrawals) are taken into account in data collection, modeling)

6. INFORMATION SHARING

- technology transfer to Tribes (and States)

- sharing of data (many agencies in sampling and processing need to look **broadly** at sampling protocols)
- degree to which can reproduce/transfer information--"more dollar for your buck"
- need to use citizen data (don't necessarily wait for perfection, general guidelines)
- investigate using models developed by other agencies, as well as, state agencies (especially if decide to focus on smaller watersheds), Agricultural Research Service, etc.
- coordination among agencies/others with data, monitoring, modeling, etc.
- how to best support states, technical support training
- benefit of "decision matrix," where lay out all existing data--can see/expose all data early in process
- consider demos (resource)

Work Assignments:

During the final session, the Committee planned the agenda for the next meeting and designated interim activities.

- Fredric Andes agreed to work with Don Brady to compile information on New York to be discussed under science and tools or implementation. Geoff Grubbs suggested that they expand the effort to include several areas.
- Dale Givens agreed to assist in assembling information on State perspectives concerning listing issues.
- EPA will develop a background paper on NPDES permitting on Indian Lands.
- Phil Cummings will help pull together information on non-water program applications for the third meeting so that the committee can benefit from what other programs have learned from non-attainment.

Planning for Upcoming Meetings:

The Committee also addressed some issues regarding the agendas for upcoming meetings. The facilitator provided the three following scenarios:

> Option 1) Discuss one issue (e.g., listing) per meeting and then have a wrap-up in the final meeting.
> Option 2) Identify immediate sub-issues and address these at the first meeting.
> Option 3) Develop an overall framework for the TMDL program and then fill in other issues at subsequent meetings.

Initially, several members expressed their preference for option 1. Others, however, were concerned at isolating the issues without having discussed the overall "vision" for the program. Eventually, the Committee agreed to have some discussion of the overall program at the first meeting and then to move to discussions of individual issues. Furthermore, the Committee agreed to focus on all of the issues during the next two meetings to leave time at the fourth and fifth meetings to pull everything together.

The Committee also spent some time addressing the public participation component of the next meeting. They eventually agreed that there would be both an afternoon and evening session for public participation and that the public notice should make it clear that the subject of the meeting is TMDLs.

The Committee also spent time at this point to set the dates for future meetings. The following places and dates were selected:

MEETING 2: February 19-21, 1997 (New Orleans, LA)
Due to a lack of hotel space, Meeting 2 is now scheduled for Galveston, Texas.

MEETING 3: June 11-13, 1997 (Wisconsin)

MEETING 4: September 3-5, 1997 (Portland, OR)

MEETING 5: January 21-23, 1998 (Salt Lake City, UT).

Formation of Workgroups:

The Committee also discussed the formation of workgroups, with five to seven members each, for the following subject areas:

1. Framework (e.g., overall vision and purpose)
2. Listing Issues
3. Science and Tools
4. Approval/Implementation
5. Oversight

Ms. Prothro will fax committee members a list of proposed workgroup assignments, take comments, and finalize the workgroups between now and the next meeting. She will also develop a charge to direct the workgroups. The importance of maintaining diversity on the workgroups was emphasized by several committee members. There was also discussion about the role of workgroups, which is essentially to produce a list of issues and options for the full committee to consider.

Concluding Comments:

In closing the meeting, Mr. Grubbs said that he is positive about the direction that the FACA Committee is headed and what it will be able to achieve. He also told the group that he would likely turn to them in the future for advice and encouraged them to become familiar with the *Draft TMDL Program Implementation Strategy* as a tool to guide their work and he requested their input in finalizing it. He closed by thanking the Committee for taking the time to participate.

Public Comment Period:

There were two statements provided by public participants.

The first was a statement on behalf of the Chemical Manufacturers Association (CMA) read by Dick Schwer, a Senior Consultant in Environmental Engineering Consultant at DuPont. Mr. Schwer's statement can be found at the end of this meeting summary.

The second statement was read by a member of the Committee on behalf of David Tucker of the City of San Jose Environmental Services Department. The statement stressed four key points:

1. The watershed is the big picture approach, but the Committee should focus on individual sections (issues) and not get overwhelmed.
2. The Committee should focus on a community-based approach where all concerned stakeholders (e.g., EPA, states, local governments, and the public) coordinate, communicate, and cooperate.

3. Because resources are limited, the Committee should focus on innovative solutions (e.g., phasing, cooperative approaches).
4. Don't reinvent the wheel. Transfer knowledge by capturing successes and learning from past failures and shortcomings.

Adjournment:

Ms. Prothro then adjourned the meeting with a second from the Committee.

Oral Statement of Dick Schwer, DuPont, Before the NACEPT Total Maximum Daily Load Committee on Behalf of the Chemical Manufacturers Association

Good afternoon, my name is Dick Schwer, I am a Senior Consultant in the field of environmental engineering with the DuPont Company in Wilmington, Delaware. I appreciate the opportunity to present a statement today on behalf of the Chemical Manufacturers Association.

CMA is a non-profit trade association whose member companies represent more than 90% of the productive capacity for basic industrial chemicals within the Unites States. CMA and its members are committed to the stewardship of our products throughout this manufacture, sale, transportation, use and disposal. With facilities located in many watersheds, CMA members have a vital and direct interest in maintaining and improving water quality. We have been actively involved in working with EPA and the States to achieve Clean Water Act goals for a number of years.

CMA supports the committee's review of the TMDL process and believes that it is an important element in the nation's water quality program, particularly within the framework of a watershed focused planning and management scheme. Therefore, we recommend that the TMDL process continue to be based on high quality information and reflect a sound scientific and technical approach. The TMDL process should also incorporate risk assessment and benefit cost principles. The development of TMDLs should be based on reasonable assumptions, such as typical stream flows, rather than upon worst case analyses of conditions that may occur very infrequently. TMDL models must be flexible enough to take site-specific considerations into account, and either TMDLs nor WLAs should be made final and enforceable unless and until actual site specific monitoring data are obtained to insure the accuracy of those estimates and allocations. Instead a TMDL should include a realistic assessment of fate and transport in the waterbody. Instead a TMDL should include a realistic assessment of fate and transport in the waterbody. In addition, TMDL models should not impose unreasonable restrictions that fail to account for the actual health and assimilative capacity of the waterbody.

CMA believes that the key to successful application of this process is the fair and equitable allocation of loads among sources based on results of the TMDL, along with a reasonable time for compliance. Phased TMDLs can often be an appropriate option to address long-term needs to improve water quality. however, this approach should still provide for equitable load allocations and a realistic time frame for the attainment of reduced loads. CMA believes that this should continue to be a state-run program with broad stakeholder involvement and with EPA technical support and guidance. However, considering the magnitude of the sources necessary for the TMDL process, the use of TMDLs should be prioritized based on indications of actual impairment to human health or the environment.

Regarding the functioning of the work groups, we would like to agree with the comments of committee members supporting a diversity of stakeholders on each work group so that major perspectives are represented on each one.

Once again, thank you for the opportunity to make this statement on behalf of the Chemical Manufacturers Association. We are vitally interested in this topic and will provide additional input in the future on specific aspects of the committee's work.